We claim:-

1. A multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness of less than 0.5 μm and contains finely divided magnetic pigment having a coercive force H_c of 100 – 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 or a solid solution of these components and has a mean crystallite size of less than 10 nm.

2. A magnetic recording medium as claimed in claim 1, wherein the coercive force H_c of the pigment in the upper layer is from 130 to 220 kA/m.

3. A magnetic recording medium as claimed in claim 1, wherein the magnetic pigment in the upper layer is a metal pigment or metal alloy pigment.

4. A magnetic recording medium as claimed in claim 1, wherein the magnetic pigment in the upper layer is a hexagonal ferrite pigment or a Co-modified γ-Fe_2O_3, Co-modified Fe_3O_4 or a solid solution of these components.

5. A magnetic recording medium as claimed in claim 1, wherein the isotropic magnetically soft pigment in the lower layer has a mean crystallite size of less than 6 nm.

6. A magnetic recording medium as claimed in claim 1, wherein the lower layer has a coercive force H_c of less than 0.7 kA/m.

7. A magnetic recording medium as claimed in claim 1, wherein the lower layer has a coercive force H_c of less than 0.3 kA/m.

8. A magnetic recording medium as claimed in claim 1, wherein the amount of the magnetically soft pigment in the lower layer is from 25 to 85% by weight, based on the weight of all pigments in the lower layer.

9. A magnetic recording medium as claimed in claim 1, wherein the amount of the magnetically soft pigment in the lower layer is from 35 to 78% by weight, based on the weight of all pigments in the lower layer.

10. A magnetic recording medium as claimed in claim 1, wherein the magnetically soft pigment in the lower layer has been surface-treated with an aluminum compound or a silicon compound or a mixture of the two compounds.

11. A magnetic recording medium as claimed in claim 1, wherein the magnetically soft pigment in the lower layer is spherical or amorphous.

12. A magnetic recording medium as claimed in claim 1, wherein the lower layer contains at least one nonmagnetic pigment in addition to the magnetically soft pigment.

13. A magnetic recording medium as claimed in claim 12, wherein the nonmagnetic pigment is acicular, having a mean longitudinal axis of from 5 to 200 nm, or spherical or amorphous, having a mean particle size of from 5 to 180 nm.

14. A magnetic recording medium as claimed in claim 12, wherein the nonmagnetic pigment is α-Fe_2O_3.

15. A magnetic recording medium as claimed in claim 12, wherein the nonmagnetic pigment is carbon black.

16. A magnetic recording medium as claimed in claim 12, wherein the nonmagnetic pigment is a mixture of carbon black and α-Fe_2O_3.

17. A process for the production of a multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness of less than 0.5 µm and contains a finely divided magnetic pigment having a coercive force H_c of 100 – 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 or a solid solution of these components and has a mean crystallite size of less than 10 nm, comprising,
    - mixing, kneading and dispersing an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 and a solid solution of these components and has a mean crystallite size of less than 10 nm with a binder, a solvent and further additives and applying the dispersion to a nonmagnetic substrate, a lower layer forming;
    - mixing, kneading and dispersing a finely divided magnetic pigment having a coercive force H_c of 100 – 250 kA/m with a binder, a solvent and further additives and applying the dispersion onto the lower layer, an upper magnetic recording layer forming;
    - orienting the moist layers in a magnetic field;
    - drying the moist layers until the upper layer reaches a thickness of less than 0.5 µm; and
    - subsequently calendering and separating.

18. A magnetic recording medium containing an upper layer, and a lower layer, said lower layer including magnetically soft pigment which is selected from γ- Fe_2O_3, Fe_3O_4 and a solid solution of these components and has a mean crystallite size of less than 10 nm.

19. The magnetic recording medium as claimed in claim 18, wherein the magnetically soft pigment has a mean crystallite size of less than 6 nm as a pigment in a lower layer of a magnetic recording medium.

20. A process for the production of a multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness ~~of~~ less than 0.5 μm and contains a finely divided magnetic pigment having a coercive force H_c of 100 – 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 or a solid solution of these components and has a mean crystallite size of less than 10 nm, which comprises adding as the isotropic magnetically soft pigment in the lower layer magnetically soft pigment at least one of γ- Fe_2O_3, Fe_3O_4 and a solid solution of these components and has a mean crystallite size of less than 10 nm.

21. A magnetic tape, magnetic card or floppy disk comprising a multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness of less than 0.5 μm and contains a finely divided magnetic pigment having a coercive force H_c of 100 – 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 or a solid solution of these components and has a mean crystallite size of less than 10 nm.